CLAIMS:

1. A dialyzer inlet header comprising:

a body that is designed to be attached to an end of a dialyzer;

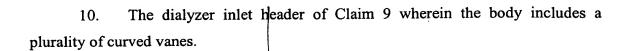
an inlet channel providing fluid communication from an exterior of the dialyzer to an interior of the dialyzer, the inlet channel defining a fluid flow path that is axial to a fiber bundle located in the interior of the dialyzer; and

at least one member for modifying the fluid flow path of a fluid as it exits the inlet channel.

- 10 2. The dialyzer inlet header of Claim 1 wherein the member for modifying the fluid flow path is a curved vane extending from a portion of the body.
 - 3. The dialyzer inlet header of Claim 2 including eight vanes.
- 15 4. The dialyzer inlet header of Claim 1 wherein the inlet channel is located at a center of the body.
 - 5. The dialyzer inlet header of Claim 1 wherein the header is sealed to an end of a dialyzer casing.
 - 6. The dialyzer inlet header of Claim 1 wherein the member for modifying the fluid flow path is a curved channel extending into a portion of the body.
- 7. The dialyzer inlet header of Claim 6 including eight channels extending 25 into the body.
 - 8. The dialyzer inlet header of Claim 1 wherein the member for modifying the fluid flow path obstructs the flow of fluid as it exits the fluid channel.
- 30 9. The dialyzer inlet header of Claim 8 wherein the member for modifying the fluid flow path is a disk located under an exit opening of the inlet fluid channel.

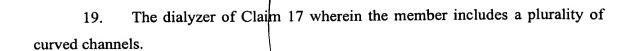
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- 11. The dialyzer inlet header of Claim 9 wherein the body includes a plurality of curved channels.
 - 12. A dialyzer comprising:
 - a body defining an interior and having a first end and a second end;
 - a fiber bundle located in the interior;
- a blood inlet located at the first end and including a fluid flow channel that causes the blood to flow in an axial direction with respect to the fiber bundle; and
- a member located in juxtaposition to the blood inlet that causes blood to flow to a perimeter region of a first end of the fiber bundle.
- 15 13. The dialyzer of Claim 12 wherein the member is a curved vane extending from a portion of the body.
 - 14. The dialyzer of Claim 12 wherein inlet channel is located at a center of the body.
 - 15. The dialyzer of Claim 12 wherein the header is sealed to an end of the dialyzer body.
 - 16. The dialyzer of Claim 12 wherein the member is a curved channel extending into a portion of the body.
 - 17. The dialyzer of Claim 12 wherein the member is a disk located under an exit opening of the inlet fluid channel.
 - 18. The dialyzer inlet header of Claim 17 wherein a plurality of curved vanes.

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- 20. The dialyzer of Claim 12 including a dialysate inlet and a dialysate outlet that define fluid flow channels that are radial to the fiber bundle.
 - A dialyzer header comprising a body member having an inlet channel providing fluid communication from an exterior to an interior of the header, the inlet channel defining a fluid path that is axial to a casing of a dialyzer to which the dialyzer head is attached and the body member including a plurality of members that impart a circular motion to the fluid as it enters the interior of the header.
 - 22. The dialyzer header of Claim 21 wherein the members are a plurality of curved vanes.
 - 23. The dialyzer header of Claim 20 wherein the members are a plurality of curved channels.
- 24. The dialyzer header of Claim 21 wherein the members include a device that obstructs the flow of the fluid into portions of the interior of the header.
 - 25. The dialyzer header of Claim 24 wherein the device that obstructs is a disk located under the inlet channel.
- 25 26. The dialyzer inlet header of Claim 21 wherein inlet channel is located at a center of the body.
 - 27. The dialyzer inlet header of Claim 21 including eight vanes.
- 30 28. The dialyzer inlet header of Claim 21 including eight channels extending into the body member.

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- A method for providing dialysis comprising the steps of passing blood through a dialyzer that includes a blood inlet that defines an axial flow path with respect to a fiber bundle located in the dialyzer and modifying the flow path as the blood enters the dialyzer to increase the flow of blood to a perimeter of an end of the fiber bundle.
- 30. The method of Claim 29 wherein the flow path is modified by passing at least some of the blood through channels.
- 10 31. The method of Claim 29 wherein the flow path is modified by passing at least some of the blood through a flow path bounded by vanes.
 - 32. The method of Claim 29 wherein the flow path is modified by preventing the flow of the blood directly from the inlet to the fiber bundle.